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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,583	03/15/2004	Sergey A. Korenev	ST8755US	1676

22203 7590 07/26/2005

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EXAMINER

HO, BINH VAN

ART UNIT PAPER NUMBER

2821

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/800,583	Applicant(s) KORENEV, SERGEY A.	
	Examiner Binh V. Ho	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>06/03/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 7, 9 –10, and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Glavish (6,423,976).

(Claims 1,9, and 14)

Glavish discloses in Figure a particle accelerating apparatus for accelerating charged particles, comprising at least two pair of accelerating elements (310,311), each accelerating element including a first electrode plate (310, 311) and a second electrode plate (310, 311), first and second electrode plates are spaced a part by a gap; first and second magnets (313, 314, 315) for producing a magnetic field B, wherein said plurality of accelerating elements are located between said first and second magnets; and a voltage generator for applying a voltage V across each of said first and second electrode plates (Figures 13 &14).

(Claim 2)

Glavish discloses an apparatus further comprising particle injection means for providing a source of charged particles (col. 1, lines 42 +).

(Claim 3)

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Glavish discloses apparatus further comprising a housing defining a chamber plurality of accelerating elements are located, housing including an output port for said charged particles to exit said housing (Figure 2).

(Claim 7)

Glavish discloses a voltage being in the range of 10 kV to 100 kV (col. 22, lines 30 +)

(Claim 10)

Glavish teaches accelerating gap is located between a first electrode plate and a second electrode plate (Figure 13, col. 16, lines 22 +).

(Claim 12)

Glavish teaches producing the electric field includes a voltage generator (col. 20, lines 54 +).

(Claim 13)

Glavish teaches producing the magnetic field includes a first and a second magnet.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Glavish in view of Tatchyn (5,596,304).

Glavish discloses substantially all of the elements, except magnet for modifying a trajectory. Tatchyn teaches magnet for modifying a trajectory (col. 5, lines 29 +). It would be obvious to one having ordinary skill in the art at the time the invention was made to provide Glavish's device with the magnet as taught by Tatchyn, since the magnet can be used to focus or defocus and generally modify the trajectories of charged particle beams.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Glavish in view of Busing (5,324,646).

Glavish discloses substantially all of the elements, except means for reducing the pressure inside chamber. Busing teaches means (col. 4, lines 1-8) reduce the pressure in the chamber. It would be obvious to one having ordinary skill in the art at the time the invention was made to use vacuum pump to decrease the pressure in the chamber in order to maintain the velocity of micro-projectiles over a longer distance.

6. Claims 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glavish in view of Lee (US 20040033176).

Glavish discloses substantially all of the elements, except the electrodes plate includes a slot. Lee teaches the electrodes, (242 in Figure 4B) having slots. It would be obvious to one having ordinary skill in the art at the time the invention was made to select electrodes have slot shape, because the slot shape which can collect particles. As a result, the airstreams emitted by the electrode assembly has reduced dust content.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Glavish.

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Glavish discloses substantially all of the elements, except magnetic field B is in the range of 0.05 T to 50T. It would be obvious to one having ordinary skill in the art at the time the invention was made to form magnetic field in the range of 0.05T to 50T, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art (Refer to US 20040047442 ([0176]) which teach magnetic field being in the range of 0.05T to 50T).

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Glavish in view of Mako (US 20020060521).

Glavish discloses substantially all of the elements, except a deflecting charged particle by a magnetic field are diverted from circular orbit. Mako teaches deflection, magnetic field, and circular orbit ([0050] +). It would be obvious to one having ordinary skill in the art at the time the invention was made to see when the particle leaves the cavity and enters the drift space (circular orbit) there is very little displacement of the guiding center.

Inquiry

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh V. Ho whose telephone number is 571 272 8583. The examiner can normally be reached on M-F from 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K. Wong can be reached on 571 272 1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Binh V Ho
Examiner
Art Unit 2821

Binh Van Ho
07/20/2005

Primary

A handwritten signature in black ink, appearing to read 'Binh Van Ho', with a long horizontal flourish extending to the right.